

Personal Protective Equipment

## Disposable Gloves: All-in-One (Latex, Neoprene and Nitrile) (Nitrile and Vinyl)

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The *first rubber gloves* were invented by Dr. William Stewart Halsted in 1894. Serving as the initial surgeon-in-chief of Johns Hopkins Hospital, Dr. Halsted reportedly designed latex gloves in order to help protect the hands of his scrub nurses from the abrasive antiseptics that were used to disinfect at the hospital. Some 125 years after the latex gloves' initial development, we can clearly see that disposable gloves have surpassed just protecting nurses' hands – they are used in nearly every industry today.

MCR Safety has been manufacturing and supplying disposable gloves for over 25 years. We currently offer 48 different disposable glove options, employing a number of innovations introduced over the past 10 years.

Disposable gloves are made of a variety of material types. In this blog, MCR Safety talks about three common types of glove materials: latex, neoprene, and nitrile.

### Purpose of Disposable Gloves

Disposable gloves protect hands from contact with infectious materials, liquids, oil, pathogens, and *contaminants* in the environment. These hazards may include chemicals, *bodily fluids*, or debris. Disposable gloves act as a shield by creating a waterproof barrier over one's skin.

The disposable glove market in the U.S. is *projected for increased growth* over the next several years.

Disposable gloves are super thin and essentially skin tight, so they provide the most dexterity and tactile sensitivity of all forms of hand protection. Since they are inexpensive, they are meant to be used once and thrown out.

### Who Uses Disposable Gloves

You will find disposable gloves used in a variety of work applications for virtually every industry. Here is a partial listing:

- **Assembly** – working with oily parts
- **Automotive** – handling automotive parts, changing oil, painting, maintenance
- **Canning and Bottling** – working with, handling, and preserving food
- **Construction** – preparing and curing cement, which can cause cement burns
- **Doctors** – examining patients; protection from blood and other bodily fluids, infectious materials
- **EMT** – attending patients; protection from blood and other bodily fluids
- **Food Processing** – handling raw meat, such as chicken or pork
- **Food Service and Restaurant Workers** – preparing food, avoiding cross-contamination of meats
- **Forensic** – processing a crime scene
- **Hair Salons** – dyeing hair
- **Jailors** – patting down inmates
- **Janitors** – cleaning facilities, such as toilets

- **Laboratories** – testing samples and handling chemicals
- **Law Enforcement** – interacting with unknown substances, patting down suspects
- **Manufacturing** – cleaning metal and plant maintenance
- **Medical** – preventing cross-contamination of pathogens, including bacteria and viruses
- **Nurses** – attending to patients; protection from blood, infectious materials and pathogens
- **Pharmaceutical** – handling chemicals and avoiding contamination of products
- **Tattoo Artists** – applying tattoos to bare skin; coming into contact with bodily fluids, including blood
- **Veterinarian** – treating animals; contact with unknown substances

## Polymers

### Latex (Natural Rubber)

Users turn to disposable latex gloves when they require a durable, yet thin and extremely flexible glove. Combine these attributes with being soft and comfortable, and it is clear why latex remains one of the leading glove making polymers on the market.

Latex gloves are highly preferred in sensitive applications due their fit. Because disposable latex gloves are elastic by nature, they stretch and allow for excellent dexterity, meaning that workers' movements aren't hampered or restricted by the gloves. Just picture a rubber band being stretched. That rubber band is essentially what you have protecting your entire hand.

You can purchase either powdered or unpowdered latex gloves; the powder helps the wearer pull the gloves on. Three of MCR Safety's top-selling disposable gloves are the **5049**, **5055** and **5059**.

As you probably already know, nothing is 100% perfect in life. Many people have latex allergies and cannot wear or come into contact with latex gloves. Those workers who are allergic to latex will need a different disposable glove.

It is also important to note that as of January 2017, powdered latex gloves have been banned from use in medical applications. Latex also degrades in oil, so automotive workers or those coming into contact with oil will need different disposable glove options. There are several.

### Neoprene (Chloroprene)

Neoprene is a synthetic rubber that was developed as an oil-resistant substitute for natural rubber. It is **heat-, chemical-, oil-, and ozone-resistant**. Because of this, neoprene offers a broad range of chemical protection.

One of the key characteristics of neoprene is its resistance to temperature extremes. Neoprene remains flexible and elastic in cold temperatures as well as remaining firm and not becoming sticky in high temperatures. Neoprene possesses outstanding physical toughness and resistance to damage caused by flexing and twisting. Offering neoprene disposable gloves is a relatively new innovation, however. More on that in a moment.

### Nitrile (NBR)

Nitrile is known as the "jack of all trades" for polymers, and for good reason. It is one of the strongest

polymers available, boasting up to 5x greater puncture resistance when compared to latex. Nitrile provides users with excellent tensile strength and is snag-, abrasion-, and puncture-resistant. Nitrile is also latex-free, so nitrile gloves are a safe option for those who have a latex allergy.

Nitrile is a durable synthetic rubber that offers resistance to numerous substances, including oils (*petroleum-based as well as mineral and vegetable oil*). With its resistance to oils and solvents, nitrile gloves are often worn by workers who are engaged in oily applications and automotive degreasing applications. Because nitrile is both heat- and water-resistant, it is an excellent product for handling fats and greases and is used widely in the poultry and red meat processing industries.

To learn more about the different innovations in disposable gloves, as well as MCR Safety's ITC lab testing to ensure high standards, see the complete article *here*.

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